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Remarks35 U.S.C. 102 Rejections

Claims 1 through 10 remain pending in the application. The office action rejects claims 1 through 6 under 35 U.S.C. 102(b) as being anticipated by Jarema et al, Plastic Coated Metallic Foams, U.S. Patent 3,839,080 (Oct. 1, 1974). The office action states that, "Jarema et al discloses a method of plastic coating metallic foams. The method includes providing a metal foam, applying plastic material such as rubber, to the metal foam, allowing the plastic material to solidified, jointing to another foamed metal article, metal sheets or other metals (Abstract, Col 2, lines 8-19, Col 3, lines 14-60)."

However, no matter in claims 1 through 6 is referenced in the disclosure and contains all of the limitations of any of these claims. Thus Jarema et al does not anticipate any of Applicant's claims. Jarema et al discloses a method of plastic coating metallic foams. Specifically, in the specification, Col 3, lines 14-60, discloses coating a foamed metal body with a plastic or polymeric coating agent. These coating agents may be admixed with other materials, including "stabilizers, antioxidants, antiozonants, dyes, fillers, anti-static agents, anti-tack and slip agents, bacteriostats, brighteners, flame retardants, U.V. absorbers, and plasticizers." (Col 3, lines 16-20). In addition, the plastic can be mixed with other substances such as "silicone carbide, ground glass, or similar substance" in order to render the coating layer abrasive or non-skidding. (Col 3, lines 35-38).

Applicant's independent claims 1 and 5 define a first material secured to a foam. In which a second material is applied to the foam material (which is secured to the first material).

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thus, three different articles are required by this claim: foam, a first material, and a second material. This claim clearly defines that the first material (no matter what the first material may be) has a foam material secured to it. Jarema et al discloses that the foamed metal body is coated with plastic. All of the structures disclosed for coating the foamed metal material are plastics and not foams. Therefore, Jarema et al does not disclose all of the limitations of the applicant's claims and this reference cannot serve as a reference to anticipate any of Applicant's claims. Accordingly, Applicant requests that the claims be allowed.

Similarly, claim 3 claims structural material, non-adherent material and foam. Once again, these three articles are not present in the cited reference and therefore the reference does not anticipate Applicant's claim.

35 U.S.C. 103(a) Rejections

The office action rejects claims 7 through 10 as obvious over Jarema et al in view of Swarthout, Laminated Track Pad for Tracked Vehicles, U.S. Patent 4,470,641 (Sep. 11, 1984) and Savage et al, Composite Tread for Track-Laying Vehicles, U.S. Patent 4,844,561 (Jul. 4, 1989). The office action states that Jarema et al discloses a method of plastic coating metallic foams but is silent as to attaching the metal foam to a track plate prior to applying the rubber. However, attaching a rubber-coated pad to a track plate of a track tread is well known in Swarthout because this patent discloses a method of forming a track pad. The method includes attaching the track pad to the track plate. (Col 1, lines 44-60 and Figure 1). The office action further states that Savage discloses a method of forming a composite tread for track laying vehicles. For example, Savage et al discloses providing a metal support member (i.e. track plate, a monofilament pad, a porous material), placing the pad in a mold and the track plate n

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top, and injecting the plastic material into the mold. (Col 3, lines 29-51).

Even if combined, the resulting combinations do not meet all of the limitations of the claims. Applicant's claim 7 requires that foam be attached to a track plate. The track plate is comprised of some type of metal and therefore the foam is attached to a metal. Then the foam and the track plate are placed into a track plate mold. Liquefied rubber (a plastic) is then poured into the track plate mold and allowed to solidify so that a portion of the rubber intermingles with the foam and is secured to the foam. These steps are not present in Jarema et al as the foamed metals are enhanced by coating surfaces thereof with plastic materials. The foamed metal body is coated with a plastic and then is joined to another foamed metal article, or to a metal sheet, wire glass, rock, or other such material. Figure 1 illustrates the configuration disclosed in Jarema et al wherein ABCD represents the foamed material and ACFE represents a layer of plastic on the foamed material. Attaching the plastic coated plate of Jarema et al to the track plate as disclosed by Swarthout, would not result in Applicant's claimed invention. Furthermore, attaching the Jarema et al metal foam to the track plate prior to coating (as in Savage et al) would not result in the claimed invention because the resulting plate would be coated with the rubber coating and not the foam coating as claimed by Applicant. Thus, this claim is non-obvious.

Applicant's claim 8 requires that a foam material be secured to a track plate and then rubber is applied to the foam material, thereby causing the rubber to intermingle with the foam. As described above, Jarema et al does not disclose a foam coating adhered to metal. Instead, Jarema et al discloses a plastic coating be applied to the metal foam. Once again, attaching this type of structure to the track plate disclosed by Swarthout would not result in Applicant's claimed invention because the basic

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structure still lacks the foam coating rather than the plastic coating. Further, attaching the metal foam to the track plate prior to the track plate being coated in rubber (as in Savage et al) would still be lacking in a foam coated plate. Thus, this claim is non-obvious.

Applicant's claim 9 requires interposing a foam between a truck plate and the rubber pad. Then the track plate is attached to the foam and rubber is provided in liquefied form and poured over the foam and the track plate, causing the rubber to solidify. Savage et al discloses a method of forming a composite tread (i.e. track plate) by placing the pad in a mold and the track plate on top, and injecting the plastic material into the mold. Providing the Savage et al metal support member, placing the pad in a mold and the track plate on top, and injecting the plastic material into the mold, as disclosed in Savage et al, still lacks the step of providing a foam on the plate. Also, even if the Jarema et al plate were used with the Savage et al method steps, the addition of foam would still be lacking. Thus, this claim is non-obvious.

Applicant's claim 10 requires attaching a foam to a track plate, placing the foam and track plate into a track plate mold, pouring a rubber into the track plate mold and allowing the rubber to solidify. As described above, the step of attaching a foam to the plate is not disclosed in any of the patents cited. Therefore, this claim is non-obvious when considered with regard to the prior art patents because this step is missing.

The Applicant's invention possesses unappreciated advantages and results in unexpected results that up to now those skilled in the art have never appreciated. In Applicant's invention, the metal foam is attached to the metal structural element before the molten rubber is cast. The rubber absorbs into and becomes entangled in the metal foam, forming a superior bond and making it virtually impossible for the rubber to peel off. This results in a bond which has hundreds of times of surface area as compared

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with any of the prior art methods. This type of efficiency in the bonding has never been observed in any prior art and the results are superior to any other method disclosed by the Examiner. Therefore, the use of Applicant's method achieves superior results that cannot be achieved with any of the prior art methods or devices disclosed.

The references themselves are individually complete. All of the references cited by the Examiner are complete and functional by themselves. Therefore, there would be no reason to use elements or parts from one or substitute parts to any of the references.

Finally, the problem solved by the invention has been recognized but been unable to be solved until now and the recognition of an unrecognized solution militates in favor of patentability. If the invention were obvious, because of its advantages, those skilled in the art surely would have implemented it by now. The Jarema et al method has been around since 1974 while the Swarthout track pad has been around since 1984 and the Savage et al tread has been around since 1989. The fact that those skilled in the art have not implemented the invention, despite its great advantages, indicates that it is not obvious.

Conclusion

This response has addressed all of the Examiner's grounds for rejection. The rejections based on prior art have been traversed. Reconsideration of the rejections and allowance of the claims is requested.

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